Kary Myers

Los Alamos National Laboratory
Statistical Sciences Group
Los Alamos, New Mexico 87545
505.606.1455, kary@lanl.gov

www.lanl.gov/expertise/profiles/view/kary-myers

Professional Experience

2006-present	**Los Alamos National Laboratory**, Los Alamos, New Mexico *Scientist*, Statistical Sciences Group
2016-present	**Los Alamos National Laboratory**, Los Alamos, New Mexico *Deputy Director*, Information Science and Technology Institute
2015 summer	**Imperial College London**, London, England *Academic Visitor*, Statistics Section, Department of Mathematics
2001	**WhizBang! Labs Research**, Pittsburgh, Pennsylvania *Graduate Research Assistant*
1999, 2000	**AT&T Shannon Labs**, Florham Park, New Jersey *Graduate Research Assistant*, Artificial Intelligence Department (1999) and Machine Learning Department (2000)

Education

2006	**Carnegie Mellon**, Pittsburgh, Pennsylvania Ph.D., Statistics Department *Thesis:* Developing Models to Reveal Brain Activation in Massive Neuroimaging Datasets
2002	M.S., Machine Learning Department *Master's project:* A Boosting Approach to Topic Spotting on Subdialogues
1999	B.S. with University and College Honors, Statistics Department (Computer Science Minor) *Honors thesis:* Finding Galactic Clusters in Massive Astrophysical Datasets

Honors and Awards

2015	New Mexico Small Business Association Success Story
2015	Los Alamos Achievement Award (also 2007 and 2011-2013)
2014	American Statistical Association Chapter Service Recognition Award
2011	Early Career Scholarship, Isaac Newton Institute for Mathematical Sciences
2011	Certificate of Appreciation, ASA Section on Physical and Engineering Sciences
1999-2005	AT&T Labs Fellowship (all educational expenses and a stipend for 6 years of graduate study)
2004	Student Paper Competition Winner, Statistical Computing and Graphics Sections of the American Statistical Association
2005, 2004	Student Scholarship, Spring Research Conference on Statistics in Industry and Technology
2004	Outstanding Reviewer Award, American College of Gastroenterology
1999-2003	Carnegie Scholars Program Fellowship
1999	Election to Phi Beta Kappa, Phi Kappa Phi, and Sigma Xi
1999	Richard Schoenwald Phi Beta Kappa Undergraduate Research Prize
1999	Lucent Technologies First Prize, Sigma Xi Undergraduate Research Competition

Activities and Service

Conference Organization

2012-present	**Founder and chair**, Conference on Data Analysis (CoDA) 2012, 2014, 2016, 2018
2007	**Co-chair**, Quality and Productivity Research Conference

Editorial Service

2012-present	**Associate editor**, *Annals of Applied Statistics*
2014-present	**Associate editor**, *Journal of Quantitative Analysis in Sports*
2014-2017	**Associate reviews editor**, *Journal of the American Statistical Association*
2014-2017	**Special issue editor (CoDA 2014, 2016)**, *Statistical Analysis and Data Mining*
2012-2013	**Special issue associate editor (CoDA 2012)**, *Technometrics*
2011-2014	**Production editor**, *Bayesian Analysis*,
2010-present	**Editor**, *CHANCE* magazine

Service to the American Statistical Association

2012-2013	**Founding officer and section representative** (appointed), Statistics in Imaging
2012-2013	**Program chair** (elected), Statistical Graphics
2011-2013	**President** (elected), Albuquerque Chapter
2010-2011	**Program chair** (elected), Physical and Engineering Sciences
2010	**Program chair** (appointed), Council of Chapters
2009	**Student award selection committee member**, Bayesian Statistical Science
2007	**Organizer**, Special Award of the American Statistical Association, Intel International Science and Engineering Fair

Other Service

2015-2016	**Science Advisory Council member**, Information Science & Technology Institute, LANL
2015-present	**Selection committee member**, Department of Energy Computational Science Graduate Fellowship
2015	**Selection committee member**, Imperial College Data Science Institute Best Thesis Prize
	Peer reviewer, Laboratory Directed Research and Development Program:
2015-2017	• Co-chair, Information Science & Technology Science Advisory Panel
2015, 2016	• Member, Thought Leader Panel, Early Career Research Award
2013, 2014	• Member, Computer Science, Mathematics, and Data Science Committee
2013, 2015	• Member, Early Career Research Committee
	Peer reviewer, National Institutes of Health:
2009	• Grand Opportunities Program ("GO Grants")
2009	• Neurological, Aging and Musculoskeletal Epidemiology Study Section
2008	• Infectious, Reproductive, Asthma, and Pulmonary Study Section
2008	**Instructor**, Expanding Your Horizons Los Alamos

Professional Memberships

Phi Beta Kappa, Phi Kappa Phi, Sigma Xi Scientific Research Society, American Statistical Association, Association for Women in Mathematics

Publications and Presentations

Refereed Articles in Journals and Conference Proceedings

2017 K.R. Quinlan, C.M. Anderson-Cook, and **K.L. Myers**. The Weighted Priors Approach for Combining Expert Opinions in Logistic Regression Experiments. *Quality Engineering*, DOI 10.1080/08982112.2017.1319956.

2016 **K. Myers**, E. Lawrence, M. Fugate, C. McKay Bowen, L. Ticknor, J. Woodring, J. Wendelberger, and J. Ahrens. Partitioning a Large Simulation as It Runs. *Technometrics*, DOI 10.1080/00401706.2016.1158740.

2014 B. Nouanesengsy, J. Woodring, J. Patchett, **K. Myers**, and J. Ahrens. ADR Visualization: A Generalized Framework for Ranking Large-Scale Scientific Data Using Analysis-Driven Refinement. In *4th IEEE Symposium on Large Data Analysis and Visualization (LDAV)*.

2014 Y. Su, G. Agrawal, J. Woodring, **K. Myers**, J. Wendelberger, J. Ahrens. Effective and Efficient Data Sampling Using Bitmap Indices. *Cluster Computing*, 17(4), 1081-1100.

2013 Y. Su, G. Agrawal, J. Woodring, **K. Myers**, J. Wendelberger, J. Ahrens. Taming Massive Distributed Datasets: Data Sampling Using Bitmap Indices. *22nd International ACM Symposium on High Performance Parallel and Distributed Computing*, 13-24.

2013 T. Burr, M.S. Hamada, **K. Myers**, M. Skurikhin. Point-Source Detection Using Gamma-Ray Spectra in Radiation-Portal Monitoring. *Journal of Quality Technology*, 45(3), 285-296.

2013 C. Longo, T. Burr, **K. Myers**. Change Detection Using Wavelets in Solution Monitoring Data for Nuclear Safeguards. *Axioms* (2), 271-285.

2012 T. Burr, A. Bakel, S. Bryan, K. Budlong-Sylvester, J. Damico, S. Demuth, M. Ehinger, H. Garcia, J. Howell, S. Johnson, J. Krebs, **K. Myers**, C. Orton, M. Thomas. Roles for Process Monitoring in Nuclear Safeguards at Aqueous Reprocessing Plants. *Journal of Nuclear Materials Management*, 40(2), 42-53.

2011 D. Hush, N. Pawley, **K. Myers**, R. Nemzek. A comparison of methods for estimating broadband noise in the frequency domain. In *Asilomar Conference on Signals, Systems and Computers* , IEEE Computer Society, 316-320.

2011 D.I. Moody, S.P. Brumby, **K.L. Myers**, N.H. Pawley. Radio frequency (RF) transient classification using sparse representations over learned dictionaries. In *SPIE Optical Engineering Applications*, International Society for Optics and Photonics, doi:10.1117/12.898894.

2011 D.I. Moody, S.P. Brumby, **K.L. Myers**, N.H. Pawley. Classification of transient signals using sparse representations over adaptive dictionaries. In *SPIE Defense, Security, and Sensing*, International Society for Optics and Photonics, doi:10.1117/12.883341.

2011 D.I. Moody, S.P. Brumby, **K.L. Myers**, N.H. Pawley. Sparse classification of RF transients using chirplets and learned dictionaries. In *Asilomar Conference on Signals, Systems and Computers* , IEEE Computer Society, 1888-1892.

2010 S. Brumby, **K. Myers**, and N. Pawley. Capturing dynamics on multiple time scales: A multilevel fusion approach for cluttered electromagnetic data. *SPIE Defense, Security, & Sensing*.

2009 N. Pawley, **K. Myers**, J. Galbraith, and S. Brumby. Capturing dynamics on multiple time scales: A hybrid approach for cluttered electromagnetic data. *43rd Asilomar Conference on Signals, Systems, and Computers*.

2009 T. Burr and **K. Myers**. Effects of background suppression of gamma counts on signal estimation. *Applied Radiation and Isotopes*, **67**, 1729-1737.

2008 T. Burr and **K. Myers**. Signatures for several types of naturally occurring radioactive material. *Applied Radiation and Isotopes*, **66**, 1250-1261.

2007 **K.L. Myers**, A.E. Brockwell, and W.F. Eddy. State-space models for optical imaging. *Statistics in Medicine*, **26**, 3862-3874.

2007 T. Burr, J.R. Gattiker, **K. Myers**, and G. Tompkins. Alarm criteria in radiation portal monitoring. *Applied Radiation and Isotopes*, **65**, 569-580.

2004 **K. Myers**. The billion byte brain: Combining physiological data and gigabytes of images to improve maps of brain activity. *2004 Proceedings of the American Statistical Association*.
•Winner, Statistical Computing and Graphics Sections Student Paper Competition

2000 **K. Myers**, M. Kearns, S. Singh, and M.A. Walker. A boosting approach to topic spotting on subdialogues. *Proceedings of the Seventeenth International Conference on Machine Learning*, 655-662.

Book Chapter

2016 J. Gattiker, **K. Myers**, B. Williams, D. Higdon, M. Carzolio, A. Hoegh. Gaussian Process-Based Sensitivity Analysis and Bayesian Model Calibration with GPMSA. In *Handbook of Uncertainty Quantification*, Eds. R. Ghanem, D. Higdon, and H. Owhadi. DOI 10.1007/978-3-319-11259-6_58-1.

Technical Reports

2010 N.H. Pawley, **K.L. Myers**, J.P. Layne, and R.J. Nemzek. Analysis of RF signatures from multiple DOE foundries. Los Alamos National Laboratory Technical Report LA-CP-10-01600.

2010 R.J. Nemzek, T.D. Hamlin, S.C. Bender, J.P. Layne, **K.L. Myers**, N.H. Pawley, and R.W. Wysor. Propagation of emissions from the 3/P-DUT under differing power configurations during the Kazoo-3 test. Los Alamos National Laboratory Technical Report LANL-NISC-10-0036.

2010 N.H. Pawley, R.J. Nemzek, **K.L. Myers**, and T.D. Hamlin. Variation of RF signatures with simultaneous operation of multiple V-DUTs. Los Alamos National Laboratory Technical Report LANL-NISC-10-20.

2010 **K.L. Myers**, R.J. Nemzek, N.H. Pawley, and T.D. Hamlin. Variation of RF signatures across ten V-DUTs. Los Alamos National Laboratory Technical Report LANL-NISC-10-0009.

2010 **K.L. Myers**, N.H. Pawley, and R.J. Nemzek. V-DUT Pseudostacking: Understanding the limitations imposed by unit-to-unit variability in an idealized stacking scenario. Los Alamos National Laboratory Technical Report LANL-NISC-10-0010.

2009 R.J. Nemzek, T.D. Hamlin, **K.L. Myers**, and N.H. Pawley. Spectral prescriptions for DUTs used in the Kazoo and INL test campaigns. Los Alamos National Laboratory Technical Report LANL-NISC-09-0215.

2009 R.J. Nemzek, S. Bender, T.D. Hamlin, J. Layne, **K.L. Myers**, and N.H. Pawley. LANL RF measurements during the Kazoo-2 campaign. Los Alamos National Laboratory Technical Report LANL-NISC-09-0216.

1999 A. Moore, J. Schneider, B. Anderson, S. Davies, P. Komarek, M.S. Lee, M. Meila, R. Munos, **K. Myers**, and D. Pelleg. Cached Sufficient Statistics for Automated Mining and Discovery from Massive Data Sources. Technical report, Robotics Institute and School of Computer Science, Carnegie Mellon University.

Other Articles

2014 **K. Myers** and S. Vander Wiel. Invited discussion of "Data Science: An Action Plan for Expanding the Technical Areas of the Field of Statistics" by William S. Cleveland. *Statistical Analysis and Data Mining*, **7**(6), 420-422.

2008 **K. Myers**. Strategies for pursuing graduate school fellowships. *International Society for Bayesian Analysis Bulletin*, **15**(2).

2007 W.F. Eddy, R. McNamee, and **K.L. Myers**. Imaging the living brain. *CHANCE*, **20**(4).

Invited Talks and Seminars

Key: **IS** $\equiv$ Invited Seminar < 60m; **IT** $\equiv$ Invited Talk < 35m

Filtering for Anomalies in Diverse Time Series

IS 2016 **Imperial College London**, London, UK

Partitioning a Large Simulation as It Runs

IT 2016 **Spring Research Conference**, Chicago, Illinois, USA
IS 2016 **Carnegie Mellon**, Pittsburgh, Pennsylvania, USA
IT 2016 **Conference on Data Analysis**, Santa Fe, New Mexico, USA
IS 2015 **Middlesex University**, London, UK
IS 2015 **Imperial College London**, London, UK

Malt Balls or Malt Beer? Detecting the Prohibited Operation of Dual-Use Facilities

IS 2014 **Imperial College London**, London, UK
IS 2014 **Colorado School of Mines**, Golden, Colorado, USA
IS 2013 **Draper Laboratory**, Cambridge, MA, USA
IS 2013 **N.O.R.C.**, Chicago, IL, USA
IS 2012 **Sandia National Laboratories**, Livermore, CA, USA
IS 2012 **Augsburg Institut für Mathematik**, Augsburg, Germany
IS 2012 **Simon Fraser University**, Burnaby, BC, Canada
IS 2011 **Carnegie Mellon**, Pittsburgh, PA, USA
IS 2010 **Kansas State University**, Manhattan, KA, USA
IS 2010 **Lawrence Livermore National Laboratory**, Livermore, CA, USA

Same or Different? Identifying Similarities and Computing Distances Between Images

IT 2009 **Joint Statistical Meetings**, Washington, DC, USA

Developing Models to Reveal Brain Activation in Massive Neuroimaging Datasets

IT 2007 **Center for the Neural Basis of Cognition**, Pittsburgh, PA, USA
IS 2006 **Los Alamos National Laboratory**, Los Alamos, NM, USA
IS 2006 **Mayo Clinic**, Rochester, MN, USA
IS 2005 **Merck**, Rahway, NJ, USA
IS 2005 **Pittsburgh Cancer Institute**, Pittsburgh, PA, USA
IS 2005 **Battelle**, Columbus, OH, USA
IS 2005 **UT Southwestern Medical Center**, Dallas, TX, USA
IT 2005 **Spring Research Conference on Statistics in Industry and Technology**, Park City, UT, USA
IT 2005 **ENAR Spring Meeting**, Austin, TX, USA
IT 2004 **Interface**, Baltimore, MD, USA
IT 2004 **Center for Automated Learning and Discovery Research Day**, Pittsburgh, PA, USA